

REMARKS

Claim 1 is pending in this application. By this Amendment, claim 1 is amended. Support for the amendments to the claim may be found, for example, in original claim 1. No new matter is added.

In view of the foregoing amendments and following remarks, reconsideration and allowance are respectfully requested.

I. Rejection under 35 U.S.C. §112

The Office Action rejects claim 1 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, the Office Action asserts that claim 1 is generally narrative and indefinite, as failing to conform with U.S. practice. By this Amendment, claim 1 is amended to particularly point out and distinctly claim the subject matter as well as to better conform to U.S. practice. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

II. Rejections under 35 U.S.C. §103

The Office Action separately rejects claim 1 under 35 U.S.C. §103(a) over U.S. Patent No. 5,265,422 to Watts ("Watts") and in view of U.S. Patent No. 3,585,797 to Moon ("Moon") and over U.S. Patent No. 4,617,797 to Williams ("Williams") in view of Moon. Applicants respectfully traverse the rejections.

Claim 1 recites:

An HST drive circuit comprising:...an oil cooler provided in an oil passage reaching a reservoir from the motor case; and a cooling line for cooling the pump case and the motor case; wherein a relief oil from a charge relief valve is charged to the pump case and the cooling line makes the oil, which has been discharged from the charge pump through the charge relief valve to the pump case, flow to the reservoir via the pump case and the motor case.

Such a drive circuit is not taught or suggested by the cited references.

As disclosed in the specification, one of the benefits of the claimed invention over the prior art is that it provides a way for efficiently cooling the HST drive circuit by the oil flowing through the cooling line leading to the reservoir through the pump case, motor case, and oil cooler, from the charged circuit, and as a result a rise in temperature of the hydraulic fluid circulating through the closed circuit can be suppressed. *See* specification, page 2, lines 21-27. Despite its asserted disclosures, each of Watts and Williams fails to teach or suggest such a feature.

The Office Action alleges that Watts discloses an HST drive circuit formed by connecting a hydraulic pump 10 stored in a pump case 20 and a hydraulic motor 12 stored in a motor case 32 in a closed circuit form, wherein formed is a cooling line for, while discharging a relief oil from a charge circuit 36, 44, 72, 62, 64 for replenishing the closed circuit with a pressure oil, making the discharged oil flow into a reservoir 38, from the pump case 20 through the motor case 32 to an oil cooler 60. *See* Office Action, page 2, paragraph 2.

Although, Watts discloses a drain line 56 in Fig. 1, it is not a cooling line formed in order to make the hydraulic fluid flow positively, in accordance with claim 1. Watts fails to disclose that the relief oil from the charge relief valve is charged to the pump case, and the cooling line makes the oil, which has been discharged from the charge pump through the charge relief valve to the pump case, flow to the reservoir via the pump case and the motor case, as required by claim 1.

The Office Action alleges that Williams discloses an HST drive circuit formed by connecting a hydraulic pump 10 stored in a pump case 26 and a hydraulic motor 11 stored in a motor case 44 in a closed circuit form, wherein formed is a cooling line 68 for, while discharging a relief oil from a charge circuit 50, 58 for replenishing the closed circuit with a

pressure oil, making the discharged oil flow into a reservoir, from the pump case 26 through the motor case 44 to an oil cooler. See Office Action, page 3, paragraph 4.

Williams also fails to disclose that the relief oil from the charge relief valve is charged to the pump case, and the cooling line makes the oil, which has been discharged from the charge pump through the charge relief valve to the pump case, flow to the reservoir via the pump case and the motor case, as required by claim 1.

In particular, the Office Action acknowledges that Watts and Williams do not teach or suggest discharging a relief oil from a charge circuit into the pump case. Therefore, Watts and William do not teach or suggest the relief oil from the charge relief valve is charged to the pump case, and the cooling line makes the oil, which has been discharged from the charge pump through the charge relief valve to the pump case, flow to the reservoir via the pump case and the motor case, as required by claim 1. Moon fails to cure the deficiencies of Watts and Williams.

The Office Action asserts that Moon cures these deficient features. In particular, the Office Action relies on Moon's disclosure in Figure 1, which teaches discharging relief oil from a charge circuit into the pump case. Applicants respectfully disagree.

Moon discloses that a motor 16 is communicated with a pump 14 and that a hydraulic fluid from a charge pump 46 is flown to the pump case and the hydraulic fluid from the pump case is flown to a reservoir via a heat exchanger 82'. See Figure 1. Moon further discloses "the pump and motor are hydraulically interconnected by main conduits 18 and 20 to establish a closed fluid circuit for pumping hydraulic fluid from the pump 14 to the motor 16 and to return fluid from the motor directly back to the pump." See Column 2, lines 46-51. However, Moon fails to disclose a cooling line for making a hydraulic fluid, which has been charged from the charge pump to the pump case, positively flow to motor case from the pump

case. Moon's disclosure nowhere suggests a structure of the cooling line, which positively cools the motor case, as required by claim 1.

Therefore, Moon does not cure this deficiency of Watts or Williams. Claim 1 would not have been rendered obvious by Watts, Williams and Moon alone or in any combination. Accordingly, reconsideration and withdrawal of the rejection is respectfully requested.

III. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of the application are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



James A. Oliff
Registration No. 27,075

Jeffrey R. Bousquet
Registration No. 57,771

JAO:JXT

Date: May 14, 2007

OLIFF & BERRIDGE, PLC
P.O. Box 19928
Alexandria, Virginia 22320
Telephone: (703) 836-6400

<p>DEPOSIT ACCOUNT USE AUTHORIZATION Please grant any extension necessary for entry; Charge any fee due to our Deposit Account No. 15-0461</p>
--